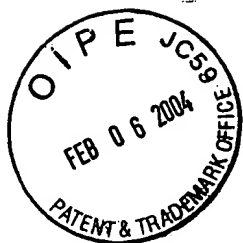




APD

DC:50261024.1



Docket No.: 8733.051.00-US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re application of

Youn G. CHANG

Confirmation No.: 2863

Application No.: 09/487,173

Group Art Unit: 2815

Filed: January 19, 2000

Examiner: Eugene LEE

For: THIN FILM TRANSISTOR TYPE OPTICAL
SENSOR

Customer No.: 30827

APPELLANT'S BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to a Final Rejection of all pending claims that was mailed on April 9, 2003, and Advisory Action that was mailed on October 10, 2003, and in support of a "Notice of Appeal" filed on October 9, 2003, Appellant hereby submits this Appeal Brief.

The fees required under § 1.17(f) and any required petition for extension of time for filing this brief and fees therefore are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief is transmitted in triplicate.

This brief contains items under the following headings as required by 37 C.F.R. § 1.192 and M.P.E.P. § 1206:

02/10/2004 DTESSEH1 00000058 09487173

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Application No.: 09/487,173
Appeal Brief dated xxx xx, 2004
Reply to Office Action of April 9, 2003

- I. Real Party In Interest
- II Related Appeals and Interferences
- III. Status of Claims
- IV. Status of Amendments
- V. Summary of Invention
- VI. Issues
- VII. Grouping of Claims
- VIII. Arguments
- IX. Claims Involved in the Appeal
- Appendix A Claims

I. REAL PARTY IN INTEREST

The real party in interest for this appeal is: LG.Philips LCD Co., Ltd.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in the Application

There are 20 claims pending in the application.

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B. Current Status of Claims

C. Claims canceled: N/A

D. Claims withdrawn from consideration but not canceled: 18-20

E. Claims allowed: N/A

F. Claims rejected: 1-17

G. Claims on Appeal: The claims on appeal are claims 1-17.

IV. STATUS OF AMENDMENTS

The Examiner issued a Election of Species Requirement on August 31, 2001. Appellant filed a Response to the Election of Species Requirement provisionally electing claims 1-5 and 13-20 on October 26, 2001. The Examiner issued a Restriction Requirement on January 15, 2002. Appellant filed a Response to Restriction Requirement on February 13, 2002 provisionally electing to prosecute claims 1-17. The Examiner issued a Non-Final Rejection on May 8, 2002 in which the Examiner withdrew claims 18-20 from consideration. Appellant filed an Amendment on August 5, 2002. The claims were not amended after the non-final rejection. The Examiner issued a Second Non-Final Rejection on October 24, 2002. Appellant filed an Amendment on January 22, 2003. Claim 1 was amended. The Examiner issued a Final Rejection on April 9, 2003. Appellant filed an Amendment on August 6, 2003. Claims 1-2, 5-12, and 16 were amended. Appellant filed a Notice of Appeal on October 9, 2003. The Examiner responded to the Amendment filed on August 6, 2003 in an Advisory Action mailed October 10, 2003. In the Advisory Action, the Examiner indicated that Appellant's remarks in

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the Response were considered, but did not place the application in condition for allowance and that for the purposes of appeal the proposed amendments will be entered.

Accordingly, the claims enclosed herein as Appendix A reflect claims 1-17 as amended.

V. SUMMARY OF INVENTION

The present invention relates to an image detector and, more particularly, to a thin film transistor (TFT) type optical sensor with a conductive object or living object detection pattern.

It is an objective of the present invention to provide a TFT type optical sensor that uses a minimal amount of electrical power and can recognize whether an object is living or not.

VI. ISSUES

The issue is whether the Examiner properly rejected claims 1-5, 9 and 13-17 under 35 U.S.C. § 103(a) as being unpatentable over Applicant's related art (ARA) in view of Takekoshi et al. (Japanese Patent Application No. JP363067503).

VII. GROUPING OF CLAIMS

For purposes of this appeal brief only, and without conceding the teachings of any prior art reference, the claims have been grouped as indicated below:

Group/Claim(s)

A. Independent claim 1 and its dependent claims 2-17; and

B. Claims 18-20, having been withdrawn, are grouped separately. Applicant does

Application No.: 09/487,173
Appeal Brief dated xxx xx, 2004
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not consider claims 18-20 to be subject of this Appeal, and reserve the right to prosecute these claims either in this application or in a divisional application.

In Section VIII below, Appellant has included arguments supporting the separate patentability of each claim group as required by M.P.E.P. § 1206.

VIII. ARGUMENTS

The issue is whether the Examiner properly rejected claims 1-5, 9 and 13-17 under 35 U.S.C. § 103(a) as being unpatentable over Applicant's related art (ARA) in view of Takekoshi et al. (Japanese Patent Application No. JP363067503).

In the Final Office Action of April 9, 2003, claims 2-3, 5-12 and 16-17 were rejected under 35 U.S.C. § 112 ¶ 2 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 2-3, 5-12, and 16-17 were amended in the Amendment filed on August 6, 2003 to clarify the claims in light of the Examiners 35 USC § 112 ¶ 2 rejection. In the Advisory Action dated October 10, 2003, the Examiner stated that:

The request for reconsideration has been considered but does NOT place the application in condition for allowance because: Takekoshi clearly discloses a detecting device that uses detection electrodes 11, 12, to detect the presence of an object. Therefore, since the Applicant's Admitted Art, is also a detecting device, it would have been obvious to one of ordinary skill in the art to use these detection electrodes in order to detect the presence of an object in Takekoshi.

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Because the Examiner did not reassert the rejections under 35 USC § 112 ¶ 2, Appellant assumes that the amendments entered in the August 6, 2003 Amendment overcome this rejection and that the rejection has been withdrawn.

In the Advisory Action of October 10, 2003, the Examiner maintains the rejection of claims 1-5, 9 and 13-17 as stated above. However, claim 1 is allowable over the cited references in that each of these claims recites a combination of elements including, for example, “a controller detecting a current flowing through the conductive object detection pattern, and in response thereto supplying a control signal to the power source to selectively supply power to the light source.”

According to M.P.E.P. § 2143, the establishment of a *prima facie* case of obviousness requires at least some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *In re Vaeck*, 947F.2d 488, 20USPQ2d1438 (Fed Cir 1991).

In rejecting claims 1-5, 9 and 13-17 under 35 U.S.C. § 103(a) as being unpatentable over the ARA in view of Takekoshi, the Examiner states “. . . it would have been obvious to one of ordinary skill in the art at the time of invention to use the plural detection electrodes of Takekoshi in the Applicant’s admitted prior art in order to detect the presence of an object such as a finger.” (See page 3 of the Final Office Action).

Appellant respectfully submits neither the ARA nor Takekoshi teach or suggest “a controller detecting a current flowing through the conductive object detection pattern, and in response thereto supplying a control signal to the power source to selectively supply power to the

light source.” Further, there is no teaching or suggestion why one of ordinary skill in the art would modify the ARA with Takekoshi.

Takekoshi discloses a lightweight coordinate detecting device using an electrostatic capacity detection type detection panel. (See Abstract.) The panel has two electrodes which form a capacitor. A layer 15 covers the electrodes. (See Fig. 3.) This panel detects variations in electrostatic capacity between detection electrodes when, for example, a finger is placed near the detection electrodes. The finger pressing in the layer 15 may cause a deformation in the structure of the electrodes causing the capacitance of the electrode structure to change. The panel is attached to detection circuitry that detects a change in the electrostatic capacity of the panel. In the detection circuitry, the change in the electrostatic capacity of the panel causes a circuit to oscillate, and the oscillation frequency is converted into a voltage detected by a voltage detection device. (See Takekoshi in the section entitled Constitution.) The Examiner ignores the fact that no current flows between the electrodes 11 and 12 as in the claimed invention. In the present invention, current flows through the conduction object detection pattern, because something has directly touched and bridged the electrodes providing a connection between the alternately disposed electrodes. In Takekoshi, this does not occur because the electrodes are covered in order to form a capacitor and to prevent the electrodes from being bridged.

As such, Appellants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness with regard to claim 1, and therefore, the rejection should be withdrawn.

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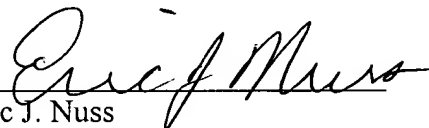
Claims 2-17 stand or fall together with claim 1, as they are dependent from independent claim 1. Claims 2-17 are also allowable by virtue of their dependence on claim 1, which is believed to be allowable.

IX. IX. CLAIMS INVOLVED IN THE APPEAL

A copy of the claims involved in the present appeal is attached hereto as Appendix A.

Dated: 2/6/04

Respectfully submitted,

By 
Eric J. Nuss

Registration No.: 40,106
MCKENNA LONG & ALDRIDGE LLP
1900 K Street, N.W.
Washington, DC 20006
Attorney for Appellants

APPENDIX A

Claims Involved in the Appeal of Application Serial No. 09/487,173

1. (Previously Presented) An image detector, comprising:
a conductive object detection pattern, wherein the conductive object detection pattern has a plurality of electrodes, the plurality of electrodes being alternately disposed;
a light source for illuminating an object on the conductive object detection pattern;
a sensor for sensing an image of the object;
a power source selectively supplying power to the light source; and
a controller detecting a current flowing through the conductive object detection pattern, and in response thereto supplying a control signal to the power source to selectively supply power to the light source.
2. (Previously Presented) The image detector of claim 1 wherein the plurality of electrodes includes spaced apart first and second electrodes.
3. (Original) The image detector of claim 2 wherein the controller transmits a first electrical signal to the first electrode and receives a second electrical signal from the second electrode and detects a conductivity between the first and second electrodes.

4. (Original) The image detector of claim 1 wherein the conductive object detection pattern is made of a material selected from a group consisting of indium tin oxide, tin oxide and TiOx.

5. (Previously Presented) The image detector of claim 1 wherein plurality of electrodes includes spaced apart first and second electrodes, each of the first and second electrodes having a finger-shaped pattern, fingers of the first and second electrodes being alternately disposed.

6. (Previously Presented) The image detector of claim 1 wherein plurality of electrodes includes spaced apart first and second electrodes, the first and second electrodes being in parallel and having a P-shaped pattern.

7. (Previously Presented) The image detector of claim 1 wherein the plurality of electrodes includes spaced apart first and second electrodes, the first electrode having a P-shaped pattern and the second electrode being disposed adjacent the first electrode.

8. (Previously Presented) The image detector of claim 1 wherein the plurality of electrodes includes a triangle-shaped pattern, a part of said triangle-shaped pattern being cut so as to form first and second electrodes.

9. (Previously Presented) The image detector of claim 1 wherein the plurality of electrodes includes spaced apart first and second electrodes, the first and second electrodes being disposed in parallel so as to form a rail-shaped pattern.

10. (Previously Presented) The image detector of claim 1 wherein the plurality of electrodes includes spaced apart first and second electrodes, the first electrode having a U-shaped pattern and the second electrode having an I-shaped pattern.

11. (Previously Presented) The image detector of claim 1 wherein the plurality of electrodes includes spaced apart first and second electrodes, the first and second each having a coil-shape pattern.

12. (Previously Presented) The image detector of claim 1 wherein the plurality of electrodes includes spaced apart first and second electrodes, the first electrode having spiral-shaped pattern and the second electrode being disposed adjacent to the first electrode.

13. (Original) The image detector of claim 1 wherein the controller supplies the control signal to the power source to supply power to the light source in response to a living object residing on the conductive object detection pattern.

14. (Original) The image detector of claim 1, wherein the controller receives an electrical signal from the power source for providing the current flowing through the conductive object detection pattern.

15. (Original) The image detector of claim 1, wherein the sensor is a thin film transistor optical sensor.

16. (Previously Presented) The image detector of claim 15, wherein the plurality of electrodes includes spaced apart first and second electrodes.

17. (Original) The image detector of claim 16, wherein the controller transmits a first electrical signal to the first electrode and receives a second electrical signal from the second electrode and detects a conductivity between the first and second electrodes.

18. (Withdrawn)

19. (Withdrawn)

20. (Withdrawn)



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Youn G. CHANG

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Application No.: 09/487,173
Appeal Brief dated xxx xx, 2004
Reply to Office Action of April 9, 2003

- I. Real Party In Interest
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- IV. Status of Amendments
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Application No.: 09/487,173
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In Section VIII below, Appellant has included arguments supporting the separate patentability of each claim group as required by M.P.E.P. § 1206.

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Appellant respectfully submits neither the ARA nor Takekoshi teach or suggest “a controller detecting a current flowing through the conductive object detection pattern, and in response thereto supplying a control signal to the power source to selectively supply power to the

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light source.” Further, there is no teaching or suggestion why one of ordinary skill in the art would modify the ARA with Takekoshi.

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As such, Appellants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness with regard to claim 1, and therefore, the rejection should be withdrawn.

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Claims 2-17 stand or fall together with claim 1, as they are dependent from independent claim 1. Claims 2-17 are also allowable by virtue of their dependence on claim 1, which is believed to be allowable.

IX. IX. CLAIMS INVOLVED IN THE APPEAL

A copy of the claims involved in the present appeal is attached hereto as Appendix A.

Dated: 2/6/04

Respectfully submitted,

By 
Eric J. Nuss

Registration No.: 40,106
MCKENNA LONG & ALDRIDGE LLP
1900 K Street, N.W.
Washington, DC 20006
Attorney for Appellants

APPENDIX A

Claims Involved in the Appeal of Application Serial No. 09/487,173

1. (Previously Presented) An image detector, comprising:

a conductive object detection pattern, wherein the conductive object detection pattern has a plurality of electrodes, the plurality of electrodes being alternately disposed;

a light source for illuminating an object on the conductive object detection pattern;

a sensor for sensing an image of the object;

a power source selectively supplying power to the light source; and

a controller detecting a current flowing through the conductive object detection pattern, and in response thereto supplying a control signal to the power source to selectively supply power to the light source.

2. (Previously Presented) The image detector of claim 1 wherein the plurality of electrodes includes spaced apart first and second electrodes.

3. (Original) The image detector of claim 2 wherein the controller transmits a first electrical signal to the first electrode and receives a second electrical signal from the second electrode and detects a conductivity between the first and second electrodes.

4. (Original) The image detector of claim 1 wherein the conductive object detection pattern is made of a material selected from a group consisting of indium tin oxide, tin oxide and TiOx.

5. (Previously Presented) The image detector of claim 1 wherein plurality of electrodes includes spaced apart first and second electrodes, each of the first and second electrodes having a finger-shaped pattern, fingers of the first and second electrodes being alternately disposed.

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9. (Previously Presented) The image detector of claim 1 wherein the plurality of electrodes includes spaced apart first and second electrodes, the first and second electrodes being disposed in parallel so as to form a rail-shaped pattern.

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14. (Original) The image detector of claim 1, wherein the controller receives an electrical signal from the power source for providing the current flowing through the conductive object detection pattern.

15. (Original) The image detector of claim 1, wherein the sensor is a thin film transistor optical sensor.

16. (Previously Presented) The image detector of claim 15, wherein the plurality of electrodes includes spaced apart first and second electrodes.

17. (Original) The image detector of claim 16, wherein the controller transmits a first electrical signal to the first electrode and receives a second electrical signal from the second electrode and detects a conductivity between the first and second electrodes.

18. (Withdrawn)

19. (Withdrawn)

20. (Withdrawn)